Clean Version of New Claims 19-40

19. A single use disposable unit for the analysis of biological liquids, comprising:

a diluent chamber,

a sample dosage device, and

a measuring chamber,

wherein the sample dosage device comprises a dosage element into which a dosage capillary running between two openings is integrated,

wherein the dosage element is arranged inside a dosage element chamber formed in the disposable unit and the dosage element is movable in such a manner that one opening of the dosage capillary is connected to a sample loading zone of the disposable unit when the dosage element is in a first position, and that, when it is in a second position, one of the openings of the dosage capillary is connected to the diluent chamber and the other opening of the dosage capillary is connected to the measuring chamber, so that the diluent chamber and the measuring chamber are in the second position connected to one another via the dosage capillary, and

wherein the measuring chamber has a defined volume and is provided with a ventilation valve which is permeable to gas but impermeable to the sample and diluent liquids, so that the measuring chamber is completely filled free of bubbles by the liquid flowing into it.

20. The disposable unit according to claim 19, further comprising a plurality of measuring channels, each measuring channel comprising a diluent chamber, a sample dosage device, and a measuring chamber.

21. The disposable unit according to claim 20, wherein a plurality of dispensing capillaries of the sample dosage device are integrated into a common dosage element.

22. The disposable unit according to claim 19, wherein the dosage element is formed as a rotor element mounted rotatably in the dosage element chamber.

23. The disposable unit according to claim 19, wherein the diluent chamber is filled with a liquid diluent pre-packaged by the manufacturer of the disposable unit and the volume of the pre-packaged diluent is larger than the volume of the measuring chamber.

24. The disposable unit according to claim 19, wherein the measuring chamber comprises an agitator with contact-free activation.

25. The disposable unit according to claim 19, wherein the measuring chamber comprises a magnetic agitator.

26. The disposable unit according to claim 19, wherein the measuring chamber comprises an observation window to allow optical analysis of a liquid contained in the measuring chamber.

27. The disposable unit according to claim 26, wherein the measuring chamber comprises a measuring area with a liquid layer formed by a partial volume of the measuring chamber, the liquid layer having, in comparison to the rest of the measuring chamber, a small volume and a small thickness measured perpendicular to the surface of the observation window.

28. The disposable unit according to claim 27, wherein the volume of the liquid layer in the measuring area is no more than one third of the volume of the measuring chamber.

29. The disposable unit according to claim 27, wherein the volume of the liquid layer in the measuring area is no more than one tenth of the volume of the measuring chamber.

30. The disposable unit according to claim 27, wherein the thickness of the liquid layer in the measuring area is no more than about 1 mm.

31. The disposable unit according to claim 27, wherein the thickness of the liquid layer in the measuring area is no more than about 0.5 mm.

32. The disposable unit according to claim 19, further comprising a machine-readable code that contains information pertinent to the analysis of the test results.

33. A system for the analysis of biological liquids comprising the disposable unit according to claim 19 and an analysis instrument, the analysis instrument comprising:

a mounting unit for positioning a disposable unit in a measuring position,

an actuator, which operates on the diluent chamber in such a manner that the liquid diluent contained therein is placed under pressure and consequently flows into the measuring chamber via the dosage capillary when the dosage element is in its second position,

a device for detecting a physical property of a liquid contained in the measuring chamber of the disposable unit positioned in its measuring position, wherein the measuring chamber is capable of being filled completely and free of bubbles by the sample liquid flushed out of the dosage capillary and by the diluent liquid while the gas displaced by the incoming liquids escapes through the ventilation valve which is permeable to gas but impermeable to the sample and diluent liquids, and

an evaluation device for deriving test results based on the result of the detection of the physical property.

34. The system according to claim 33, wherein the analysis instrument further comprises an actuator for moving the dosage element between its first position and its second position.

35. The system according to claim 33, wherein the analysis instrument further comprises an agitator for mixing the liquid contained in the measuring chamber.

36. The system according to claim 33, wherein the device for detecting a physical property further comprises an optical detection device.

37. The system according to claim 36, wherein the optical detection device is a microscope for the microscopic analysis of liquid contained in the measuring chamber.

38. A method for the analysis of biological liquids using the disposable unit according to claim 19, comprising:

placing the sample liquid in contact with the sample loading zone of the disposable unit in such a manner that it is sucked into the dosage capillary by capillary forces when the dosage element is located in its first position,

moving the dosage element to its second position,

exerting pressure on the liquid diluent contained in the diluent chamber in such a manner that it flows into the measuring chamber via the dosage capillary, whereby the sample liquid is flushed out of the dosage capillary into the measuring chamber, and

measuring and analyzing a physical property of the liquid which is thereafter contained in the measuring chamber to derive a test result.

39. The method according to claim 38, wherein measuring the physical property comprises microscopic analysis of the liquid contained in the measuring chamber.

40. The method according to claim 39, wherein the microscopic analysis is performed by means of an electronic camera, and the image from the electronic camera is electronically analyzed with respect to the number and morphology of cells contained in the measuring chamber.